

WHAT IS CLAIMED IS:

1. A process for the manufacture of lysergic acid, comprising: isomerizing paspalic acid in a phase separated mixture, comprising: paspalic acid and an aqueous solution of a metal hydroxide.
2. The process of Claim 1, wherein the metal hydroxide is selected from sodium hydroxide and potassium hydroxide.
3. The process of Claim 2, wherein the phase separated mixture, comprises: at least about 5 wt% of paspalic acid.
4. The process of Claim 3, wherein the aqueous solution of sodium hydroxide or potassium hydroxide, comprises: at least about 12 wt% of sodium hydroxide or potassium hydroxide dissolved in water.
5. The process of Claim 3, wherein the isomerizing is performed at a temperature in the range of about 40-60°C.
6. The process of Claim 2, further comprising: acidifying the reaction mixture after isomerization to form a crystalline salt of lysergic acid.
7. The process of Claim 6, wherein the reaction mixture is acidified to a pH of about 4 or below.
8. The process of Claim 6, wherein sulfuric acid is used to acidify the reaction mixture.
9. The process of Claim 6, further comprising: separating the lysergic acid salt.

10. The process of Claim 9, further comprising: extracting lysergic acid from the separated lysergic acid salt with a mixture of an alcohol and aqueous ammonia to form a lysergic acid solution.
11. The process of Claim 10, wherein the alcohol is methanol.
12. The process of Claim 11, further comprising: reducing the volume of the lysergic acid solution.
13. The process of Claim 12, further comprising: crystallizing lysergic acid from the reduced lysergic acid solution.
14. The process of Claim 13, wherein the crystallizing is aided by the addition of water.
15. The process of Claim 13, further comprising: separating the crystalline lysergic acid to provide crystalline lysergic acid and a first mother liquor.
16. The process of Claim 15, further comprising: washing the separated crystalline lysergic acid with methanol to provide crystalline lysergic acid and a first methanol wash.
17. The process of Claim 16, wherein the methanol wash is continued until the crystalline lysergic acid comprises less than about 1 wt% paspalic acid and less than about 1 wt% isolysergic acid.
18. The process of Claim 16, wherein the yield of lysergic acid obtained is at least 70%.
19. The process of Claim 16, further comprising: a second isomerizing of paspalic acid in a phase separated system by combining the first mother liquor and the first methanol wash with a second portion of paspalic acid, water, and a metal hydroxide.

20. The process of Claim 19, wherein the first mother liquor and first methanol wash are combined and reduced in volume prior to combining with the second portion paspalic acid, water, and a metal hydroxide.
21. The process of Claim 19, wherein the metal hydroxide is sodium or potassium hydroxide.
22. A process of removing isolysergic acid from crystalline lysergic acid, comprising: washing crystalline lysergic acid with methanol.
23. The process of Claim 22, wherein the crystalline lysergic acid, comprises at least 5 wt% isolysergic acid.
24. The process of Claim 22, wherein the methanol wash is continued until the crystalline lysergic acid comprises less than about 3 wt% of isolysergic acid.
25. The process of Claim 24, wherein the methanol wash is continued until the crystalline lysergic acid comprises less than about 1 wt% isolysergic acid.